



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,116	07/24/2003	Amir Abolfathi	AT-000208.1 US	9097
24710	7590	12/06/2005	EXAMINER	
ALIGN TECHNOLOGY, INC. ATTENTION: SCOTT SMITH 881 MARTIN AVENUE SANTA CLARA, CA 95050			WILSON, JOHN J	
			ART UNIT	PAPER NUMBER
			3732	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/626,116

Applicant(s)

ABOLFATHI ET AL.

Examiner

John J. Wilson

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/24/03 4/21/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 19, line 7, "means for configuring equipment from one or more vendors" is not adequately disclosed so as to enable one of ordinary skill in the art. The disclosure teaches controlling machines for making appliances, there is no teaching of how to configure equipment.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16, 20, 23, 24 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 16, line 1, "the aligner" lacks proper antecedent basis. In claim 20, line 1, "the appliance" lacks proper antecedent basis. In claims 23 and 24, line 1, "the trimming machine" lacks proper antecedent basis. In claim 37, the dependency appears to be in error, and as such, "the

community" and "the office management" lack proper antecedent basis. For purposes of this Office Action, it is assumed that claim 37 is dependent on claim 36.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Sachdeva et al (6540512). Sachdeva shows digitally scanning, column 3, line 67 through column 4, line 5, analyzing the data and planning treatment, column 4, lines 18-25, fabricating an appliance, column 4, lines 27-55, receiving additional data, column 4, lines 39-41 and adjusting treatment, lines 50-59. Also see Figs. 10 and 11.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 19, 29-39, 40, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (6540512). As to claim 7, in the planning and

treatment analyzing shown by Sachdeva, it is held to be obvious to the skilled artisan that known parameters such as size and position of the teeth must be considered. As to claims 19 and 20, Sachdeva shows modules and communicating means in Fig. 2. The specific elements designating modules is an obvious matter of choice in terminology to one of ordinary skill in the art. The specific people that access the network shown is an obvious matter of choice in the use of the shown structure. As to claim 30, the specific view of the model teeth used is an obvious matter of choice in the known parameter of angle of view to one of ordinary skill in the art. As to claim 32, see 76 of Sachdeva. As to claim 39, Sachdeva shows a display 62 and network, to use a browser with a network is well known. Sachdeva shows connecting with vendors. As to claim 43, Sachdeva teaches professional computers 76 and 90, and teaches adjusting the treatment plan. To use these computers while adjusting the treatment plan is an obvious matter of choice in the use of the resources taught by Sachdeva.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (6540512) as applied to claim 1 above, and further in view of Snow (6068482). The Sachdeva does not show separating the teeth. Snow teaches that the individual teeth are adjusted, column 3, lines 44-49. It would be obvious to one of ordinary skill in the art to modify Sachdeva to include adjusting individual teeth as shown by Snow in order to best move the teeth to the desired position. It is held that the step of separating the teeth from the initial model is inherently obvious in view of the step of adjusting individual teeth taught by Snow. As to claim 5, adjusting the individual

Art Unit: 3732

teeth of Snow in stages is an obvious step in the trial and error of moving the teeth to the final desired locations.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (6540512) as applied to claim 1 above, and further in view of Severance (6821116). The Sachdeva does not show merging images. Severance teaches image merging for comparison, column 6, lines 27-45. It would be obvious to one of ordinary skill in the art to modify Sachdeva to include merging different images as shown by Severance in order to better compare the relative positions of the teeth for determining a desired prescription.

Claims 8, 9, 11-16, 18 and 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (6540512) as applied to claim 1 above, and further in view of Karmaker et al (6186790). Sachdeva does not show milling a polymeric material. Karmaker teaches milling polymeric material to form orthodontic appliances, column 1, line 27 and line 66, and column 2, lines 19-22. It would be obvious to one of ordinary skill in the art to modify Sachdeva to include manufacturing by milling a polymeric material in order to obtain the desired appliance having the desired properties. As to claims 9, 12 and 14-17, the specific known type of manufacturing step used is an obvious matter of choice in the use of known manufacturing steps to one of ordinary skill in the art.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sachdeva et al (6540512) as applied to claim 40 above, and further in view of Rohlcke et al (5238402). Sachdeva does not show marking the appliance to indicate order of use. Rohlcke teaches marking an appliance. It would be obvious to one of ordinary skill in the art to modify Sachdeva to mark an appliance as shown by Rohlcke in order to communicate to the user a manner of use. The structure being shown, the meaning of the indicia is an obvious matter of choice in interpretation and/or intended use to one of ordinary skill in the art.

Claims 1, 2 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995). Andreiko shows scanning, column 13, lines 5-19, analyzing, column 13, lines 20-30, planning, see prescription 27 and fabricating, column 14, lines 4-67. Andreiko does not show incorporating feedback. Sachdeva teaches using a feedback system, column 7, lines 9-15. It would be obvious to one of ordinary skill in the art to modify Andreiko to include a feedback system as shown by Sachdeva in order to insure the teeth move to the desired final position by correcting deviations during treatment. As to claim 2, see MRI use at column 5, lines 15-18 of Andreiko. As to claim 7, in the planning and treatment analyzing shown by Andreiko, it is held to be obvious to the skilled artisan that known parameters such as size and position of the teeth must be considered. As to claim 8, Andreiko teaches forming jigs from plastic, column 27, lines 1-5. To call the jigs an appliance is an obvious matter of choice in terminology and/or intended use. The

Art Unit: 3732

specific type of plastic used is an obvious matter of choice in known plastics to obtain the desired properties to one of ordinary skill in the art. As to claims 9, 12 and 17, Andreiko teaches a method of controlling a machine to fabricate an appliance including cutting, however, does not show using thermal forming, or as to claim 12, using a laser machine. The use of thermal forming or a laser machine are an obvious matters of choice in known methods of fabricating to one of ordinary skill in the art in order to fabricate the desired appliance. As to claims 11 and 13, Andreiko teaches trimming (cutting), column 18, lines 20-67. The step of polishing a cut product to finish it is well known, and therefore, would have been obvious to the skilled artisan. As to claims 14 and 15, producing a product by machining a positive or negative copy of the product are well known steps in fabricating a desired appliance, and therefore, would have been an obvious matter of choice in known fabricating steps to one of ordinary skill in the art in order to fabricate the desired end product. As to claim 16, the material used to form the appliance is an obvious matter of choice in the use of known materials to form a desired appliance to the skilled artisan.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995) as applied to claim 1 above, and further in view of Snow (6068482). The above combination does not show separating the teeth. Snow teaches that the individual teeth are adjusted, column 3, lines 44-49. It would be obvious to one of ordinary skill in the art to modify the above combination to include adjusting individual teeth as shown by Snow in order to best



move the teeth to the desired position. It is held that the step of separating the teeth from the initial model is inherently obvious in view of the step of adjusting individual teeth taught by Snow. As to claim 5, adjusting the individual teeth of Snow in stages is an obvious step in the trial and error of moving the teeth to the final desired locations.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995) as applied to claim 1 above, and further in view of Severance (6821116). The above combination does not show merging images. Severance teaches image merging for comparison, column 6, lines 27-45. It would be obvious to one of ordinary skill in the art to modify the above combination to include merging different images as shown by Severance in order to better compare the relative positions of the teeth for determining a desired prescription.

Claims 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995). Andreiko shows data capture, column 13, lines 5-19, an analyzer, column 13, lines 20-30, treatment, column 13, lines 54-58 and fabrication, column 14, lines 4-67. Andreiko further shows means in the form of the computer hardware for communicating with and directing the different functions listed above and in the form of a modem, column 13, lines 44-53, for communicating with vendors. These means are held to meet the limitations of means for configuring equipment from vendors and for communicating data among the different functions. To call the functions modules is an obvious matter of choice in terminology to

one of ordinary skill in the art. Andreiko does not show incorporating feedback.

Sachdeva teaches using a feedback system, column 7, lines 9-15. It would be obvious to one of ordinary skill in the art to modify Andreiko to include a feedback system as shown by Sachdeva in order to insure the teeth move to the desired final position by correcting deviations during treatment. As to claim 20, Andreiko teaches forming jigs from plastic, column 27, lines 1-5. To call the jigs an appliance is an obvious matter of choice in terminology and/or intended use. The specific type of plastic used is an obvious matter of choice in known plastics to obtain the desired properties to one of ordinary skill in the art. As to claims 21, 23 and 28, Andreiko teaches a method of controlling a machine to fabricate an appliance including cutting, however, does not show using thermal forming, or as to claim 23, using a laser machine. The use of thermal forming or a laser machine are an obvious matters of choice in known methods of fabricating to one of ordinary skill in the art in order to fabricate the desired appliance. As to claims 22 and 24, Andreiko teaches trimming (cutting), column 18, lines 20-67. As to claims 25 and 26, producing a product by machining a positive or negative copy of the product are well known steps in fabricating a desired appliance, and therefore, would have been an obvious matter of choice in known fabricating steps to one of ordinary skill in the art in order to fabricate the desired end product. As to claim 27, the material used to form the appliance is an obvious matter of choice in the use of known materials to form a desired appliance to the skilled artisan. With respect to the fabrication machines and the appliance limitations, it is further noted that these

elements are merely inferentially claimed, and therefore, are not given patentable weight.

Claims 29, 30, 32, 36-38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995) as applied to claim 19 above, and further in view of Brown et al (6032119). The above combination does not show a health care network. Brown shows a health care network, Fig. 1, including patients, service and health providers, a server, and data visualization, column 5, lines 56-60. It would be obvious to one of ordinary skill in the art to modify the above combination to include a network as shown by Brown in order to provide better and more convenient service to patients. To call the health providers, professionals, is an obvious matter of choice in terminology to the skilled artisan. As to claim 30, the specific view of the model teeth used is an obvious matter of choice in the known parameter of angle of view to one of ordinary skill in the art. As to claim 32, to call the service and health care members of Brown, partners, is an obvious matter of choice in terminology to the skilled artisan. As to claims 36 and 37, see scheduling, Fig. 4D, of Brown.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995) and Brown et al (6032119) as applied to claim 29 above, and further in view of Joao (6283761). The above combination does not show a health care network including a dentist. Joao teaches that

it is known to use health care networks with many different professionals including dentist, column 17, line 28. It would be obvious to one of ordinary skill in the art to modify the above combination to include dentist as shown by Joao in order to provide the desired care to the desired patients.

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Sachdeva et al (6318995) and Brown et al (6032119) as applied to claim 29 above, and further in view of Abelow (5999908). The above combination does not show providing financing. Abelow teaches supplying financing in a network, column 13, lines 44-49. It would be obvious to one of ordinary skill in the art to modify the above combination to include financing as shown by Abelow in order to provide known customer needs more conveniently. As to claim 34, Abelow teaches including supplies in the network, column 10, lines 20-27. Delivery is an obvious function of providing supplies.

Claims 39, 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Brown et al (6032119) and Knaus et al (2002/004727). Andreiko teaches data capture, column 13, lines 5-19, communications to vendors including a three dimensional model, column 13, lines 44-53, and where the analysis and design 30b and 35, Fig. 1, are done by a professional 28, column 13, lines 37-55. Andreiko does not show using a browser. Brown teaches using a network, Fig. 1, for communicating and teaches using HTML, see Abstract, which is a well known

Art Unit: 3732

browser language. It would be obvious to one of ordinary skill in the art to modify Andreiko to include communicating using a browser as shown by Brown in order to make use of known better and faster ways of communicating data. The above combination does not show using XML, however, Knaus teaches that XML and HTML are known equivalents. It would be obvious to one of ordinary skill in the art to modify the above combination to include the use of XML as shown by Knaus in order to make use of art known equivalents for communication. As to claim 40, Andreiko teaches making wires and appliances, see Abstract.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreiko et al (5683243) in view of Brown et al (6032119) and Knaus et al (2002/004727) as applied to claim 40 above, and further in view of Rohlcke et al (5238402). The above combination does not show marking the appliance to indicate order of use. Rohlcke teaches marking an appliance. It would be obvious to one of ordinary skill in the art to modify the above combination to mark an appliance as shown by Rohlcke in order to communicate to the use a manner of use. The structure being shown, the meaning of the indicia is an obvious matter of choice in interpretation and/or intended use to one of ordinary skill in the art.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

Art Unit: 3732

F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/205,026 in view of Sachdeva et al (6318995). The claims of the '026 application do not show incorporating feedback. Sachdeva teaches using a feedback system, column 7, lines 9-15. It would be obvious to one of ordinary skill in the art to modify the claims of the '026 application to include a feedback system as shown by Sachdeva in order to insure the teeth move to the desired final position by correcting deviations during treatment. The type of scan used is an obvious matter of choice in well known scanning techniques in the art. The type of fabrication machine used is an obvious matter of choice in the use of known types of fabrication to the skilled artisan. The type of material used for the appliances is an obvious matter of choice in the use of known materials to one of ordinary skill in the art. The type of browser language used is an obvious matter of choice in known languages to the skilled artisan. To mark and appliance is well known in the art. The meaning of the mark is an obvious matter of choice in interpretation and/or intended use to one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection.

Claims 1-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 24-32, 34 and 35 of copending Application No. 10/137,725 in view of Sachdeva et al (6318995). The claims of the '725 application do not show incorporating feedback. Sachdeva teaches using a feedback system, column 7, lines 9-15. It would be obvious to one of ordinary skill in the art to modify the claims of the '725 application to include a feedback system as shown by Sachdeva in order to insure the teeth move to the desired final position by correcting deviations during treatment. The type of browser language used is an obvious matter of choice in known languages to the skilled artisan. To mark and appliance is well known in the art. The meaning of the mark is an obvious matter of choice in interpretation and/or intended use to one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection.

Claims 1-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37, 39-43 of copending Application No. 10/241,429. To not include sequential steps and to not include displaying on a browser are obvious matters of choice in not using claimed limitations.

This is a provisional obviousness-type double patenting rejection.

### ***Drawings***

Art Unit: 3732

The drawings filed July 24, 2003 have been found to be acceptable to the examiner.

***Information Disclosure Statement***

In the IDS filed July 24, 2003, reference AJ has been crossed through as not considered because applicant did not supply a date, or in the alternative, a statement that the reference is prior art.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Wilson whose telephone number is (571) 272-4722. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver, can be reached at (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 3732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**John J. Wilson**  
**Primary Examiner**  
**Art Unit 3732**

jjw  
November 29, 2005